

2004-2005 FINAL PROGRAM REPORT

Project Title: Soundwatch Public Outreach/Boater Education Project.

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Contract Number: **AB133F-04-SE-0835** (Req. No. NFFP 5000-4-00026)

Date: July 1, 2004 through June 30, 2005.

Abstract:

The goal of this project was to provide on the water stewardship, public outreach and boater education services by The Whale Museum's Soundwatch Boater Education Program during the 2004/05 killer whale watching season and to provide a data update to the **AB133F-03-SE-1126**, 2003 Soundwatch Public Outreach/Boater Education Project Final Project Report characterizing general trends in vessel based whale watching activities associated with Southern Resident Killer Whales in the Haro Strait Region of Washington State and Southern Vancouver Island, British Columbia.

Executive Summary:

The goal of the Soundwatch Public Outreach/Boater Education Project was to implement The Whale Museum's Soundwatch Boater Education Program during the 2004/05 whale watch season and present a data update to the 2003 report on whale watching trends in the Haro Strait region to inform future management strategies.

The objectives of this project were to 1) provide boater education services through public outreach and on-the-water stewardship activities and to collect data on vessel activities during the 2004/05 whale watching season; and to 2) conduct analysis on present whale watch data to provide an update to the 2003 Soundwatch Public Outreach/Boater Education Project report.

Data used for this update reflects data that was collected during operation of the Soundwatch Boater Education Program between 2004 and 2005. This report depicts general trends in vessel based whale watching activities associated with Southern Resident Killer Whales in the Haro Strait Region of Washington State and Southern Vancouver Island, British Columbia.

The goal of the Soundwatch Program is to reduce vessel disturbance to killer whales and other marine wildlife through educating boaters on best practice guidelines and systematic monitoring of vessel activities. Soundwatch promotes responsible marine stewardship through the development, distribution, implementation, annual evaluation and adjustment of best practice guidelines for marine wildlife viewing by residents, visitors and commercial users. Soundwatch educates boaters on the current best practices before they leave the shore; reinforces the learning experience where disturbances take place; develops and evaluates voluntary guidelines, and provides a scientific platform to monitor vessel activities.

Data collection consists of 1) counts of vessels near wildlife by type, location and activity; 2) wildlife/whale identification, location, travel direction and selected behaviors; 3) vessel contact information; 4) commercial and private vessel compliance with voluntary guidelines; 5) vessel behaviors in designated Marine Protection Areas (MPA's). Note that Soundwatch monitoring of vessel activities within MPA's is conducted outside the scope of this report under contractual agreement with the U.S. Fish and Wildlife Service and the San Juan County Marine Resources Committee. Whale sightings, whale behaviors and MPA monitoring results will not be covered in this report.

Included with this report are compact discs (CDs) of the Soundwatch Program 2004-2005 whale watch databases in both MS Access and MS Excel. This update report on disposition of funds from Contract Number **AB133F-04-SE-0835**, entitled Soundwatch Public Outreach/Boater Education Project fulfills reporting requirements under the NOAA Administrative Terms and Conditions of the contract.

Project Goal:

The goal of the Soundwatch Public Outreach/Boater Education Project was to implement The Whale Museum's Soundwatch Boater Education Program during the 2004/05 whale watching season and provide data analysis updates to the 2003 comprehensive report on whale watching trends in the Haro Strait region.

Project Objectives:

The objectives of this project were to:

- 1) Provide boater education services through public outreach and on-the-water stewardship activities during the 2004 whale watch season.
- 2) Collect data on vessel activities during the 2004 whale watch season.
- 3) Conduct analysis on current whale watch activities.
- 4) Provide data updates to the 2003 Soundwatch Public Outreach/Boater Education Project Report.

Project Results:

The original project proposal listed several deliverables including:

Task 1: Conduct on-the-water Activities July 1, 2004-June 30, 2005.

- 1.1 Provide the vessel and operational staff to conduct the on-the-water activities beginning July 1, 2004-June 30, 2005.
- 1.2 Contact Boaters engaged in whale watching activities to provide information on regional Be Whale Wise whale watch guidelines, marine mammal regulations and whale watch etiquette.
- 1.3 Provide information on observations of possible violations of the marine mammal regulations to the NMFS Northwest Regional Office for Law Enforcement in support of possible investigation or enforcement action.
- 1.4 Provide summaries of outreach activities including dates when on-the-water activities were conducted and hours of operation with monthly invoices submitted for payment.

Task 2: Conduct Data Analysis and Report on Present and Historical Compliance with Whale Watch Guidelines.

- 2.1 Collect data on vessel compliance for the 2004 whale watch season to assess effectiveness of the Be Whale Wise Guidelines.
- 2.2 Conduct analysis and provide an update to the 2003 report on vessel activities and vessel compliance under prior and new regional guidelines.

- 2.3 Provide a comparative report on past and present guideline compliance including information on vessels of different sizes.

Task 1: Conduct on-the-water Activities July 1, 2004-June 30, 2005.

1.1 On-the-water Activities

Soundwatch Daily Vessel Patrols:

Soundwatch operated vessel patrols to monitor and educate boaters on an average of 5 days per week during the summer of 2004 and an average of 6 days per week in 2005. Soundwatch staff and volunteer crews spent a total of 94 out of 123 possible days on the water between May 15, 2004 and September 15, 2004, totaling just over 741 observation and outreach hours (Figure 1). Soundwatch staff and volunteer crews spent a total of 105 out of 135 possible days on the water between May 14, 2005 and September 25, 2005, totaling just over 840 observation and outreach hours (Figure 2). Over the summer seasons (May-September) since 1998 Soundwatch has totaled more than 5, 553 observational and outreach hours with vessels and whales in the Haro Strait region (Figure 3).

Figure 1: Distribution of Soundwatch On-the-Water Activities 2004.

Figure 2: Distribution of Soundwatch On-the-Water Activities 2005.

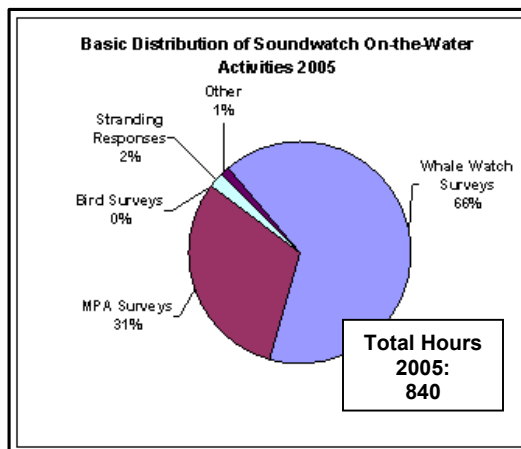
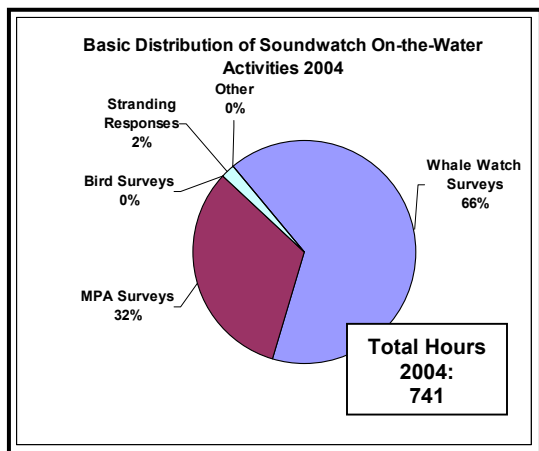


Figure 3: Distribution of Soundwatch On-the-Water Activities 1998-2005.

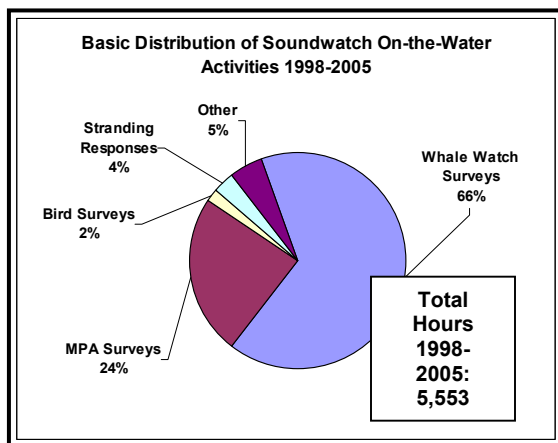
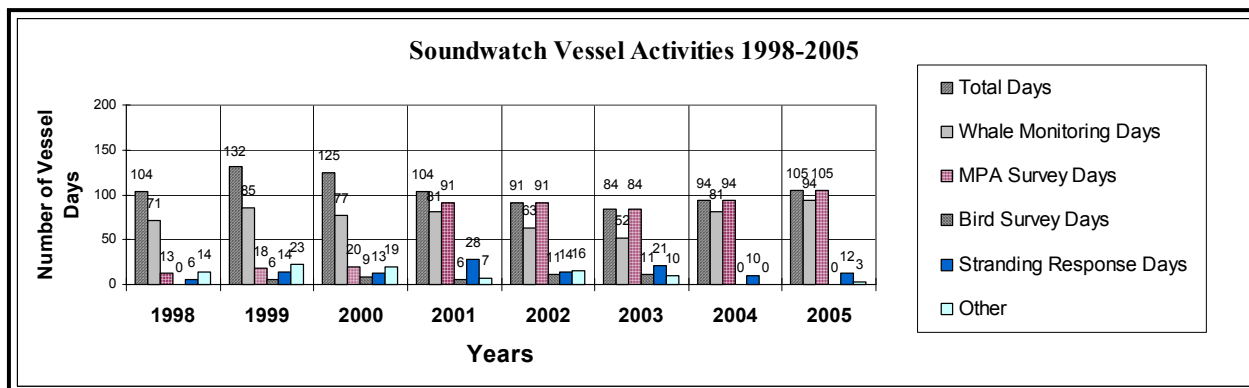


Figure 4: Daily Soundwatch Vessel Activities 1998-2005.



In 2004 a total of 81 days were dedicated to monitoring whale watch activities with opportunistic MPA monitoring also conducted on those days an average of 2 hrs during regular whale observations. Dedicated MPA monitoring was done on 13 additional no-whale sightings days for a total of 162 MPA observation hours. Nesting bird surveys with PSAMP was not continued after 2003. The Soundwatch crew responded to 10 marine mammal strandings using the Soundwatch vessel. (Figure 4).

In 2005 a total of 94 days were dedicated to monitoring whale watch activities with opportunistic MPA monitoring also conducted on those days an average of 2 hrs during regular whale observations. Dedicated MPA monitoring was done on 14 additional no-whale sightings days for a total of 210 MPA observation hours. The Soundwatch crew responded to 12 marine mammal strandings using the Soundwatch vessel. (Figure 4).

In addition to paid staff, the Soundwatch program relies on the help of many dedicated volunteers. In 2004, 48 volunteers, including 2 academic interns provided over 1,400 hours of volunteer time participating on Soundwatch vessel patrols and distributing educational materials. In 2005 Soundwatch had 41 volunteers and 4 academic interns totaling over 1,938 hours. Since 1998 Soundwatch has received over 48,338 of donated volunteer hours towards the program. Soundwatch annually employs 1 full time director position, 2 seasonal drivers and 1 seasonal part-time assistant.

1.2 Contact Boaters engaged in whale watching activities to provide information on regional Be Whale Wise whale watch guidelines, marine mammal regulations and whale watch etiquette.

When Soundwatch crew encounter vessels traveling in known whale or other wildlife areas, they politely contact the boater and provide marine wildlife viewing guidelines and localized information. Soundwatch currently distributes the Be Whale Wise Guidelines for Viewing Marine Wildlife and a Soundwatch Boater Education brochure with localized marine stewardship information and maps including the San Juan National Wildlife Refuge and the Haro Strait Voluntary No Motor Boat Zones.

Figure 5: Soundwatch Private Boat Monthly Contacts 2001-2005, May-September.

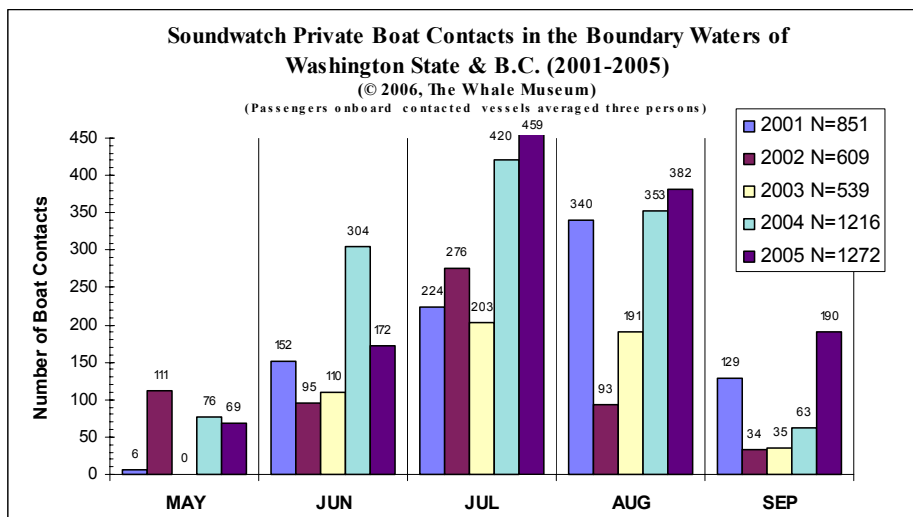
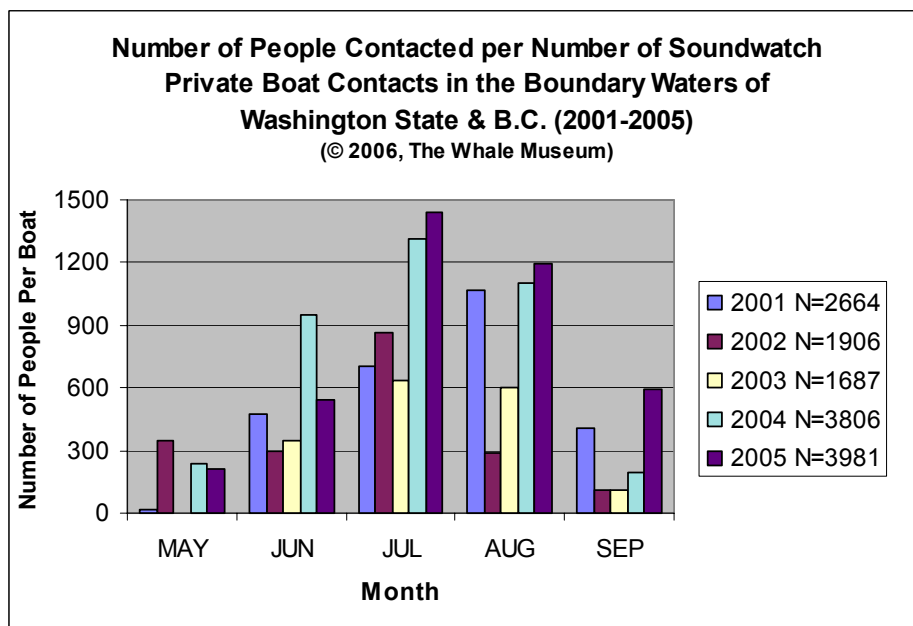


Figure 6: Soundwatch Number of People Contacted per Vessel 2001-2005, May-September.

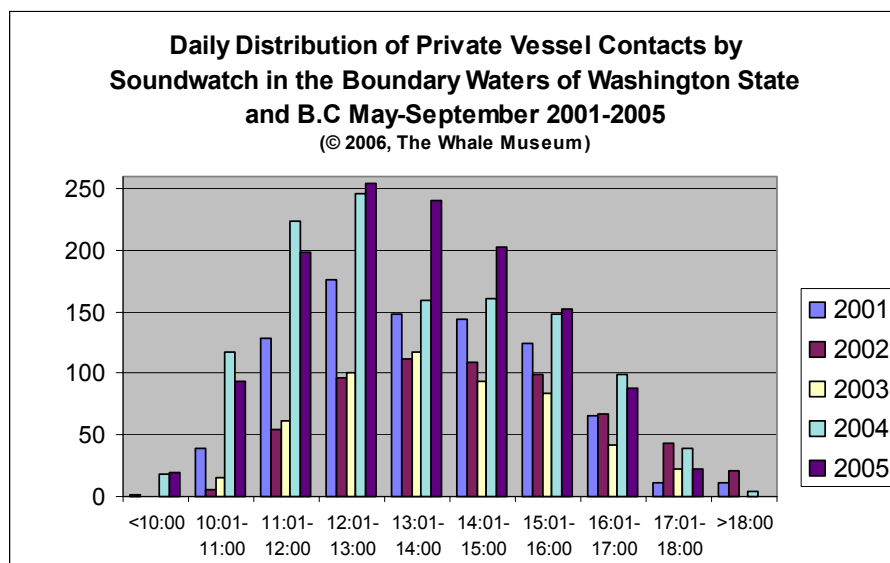


In 2004 while on the water, Soundwatch delivered Be Whale Wise and MPA educational materials to over 1,216 vessels reaching over 3,718 recreational boaters (Figures 5 and 6). Less than 8% of contacted vessels had previously been contacted by Soundwatch.

In 2005 Soundwatch delivered Be Whale Wise and MPA educational materials to over 1,272 vessels reaching over 3,978 recreational boaters (Figures 5 and 6). Less than 10% of contacted vessels had previously been contacted by Soundwatch.

Soundwatch looks at previous years contact data and vessel counts to assist with planning to target busy times for the following season. Traditionally the busiest months for recreational boaters have been in July and August. Soundwatch private vessel contacts reflect this trend (Figure 7).

Figure 7: Soundwatch Daily Distribution of Private Boat Contacts 2001-2005, May-September.



1.3 Provide information on observations of possible violations of the marine mammal regulations to the NMFS Northwest Regional Office for Law Enforcement in support of possible investigation or enforcement action.

In 2004 and 2005, Soundwatch provided fisheries enforcement agencies with annual commercial vessel identification guides and contact information. Soundwatch annually provides a calendar of regional marine related events and Soundwatch vessel count numbers by location and date to assist in the planning of fisheries marine mammal patrols that target busy times and locations. Soundwatch assists with whale location information during fisheries patrols and works cooperatively with Washington Department of Fish and Wildlife and NOAA Fisheries agents during vessel patrols with whales.

Over the 2004 and 2005 viewing seasons Soundwatch did not witness on the water behaviors that warranted filing a special report on possible violations of the marine mammal regulations to the NMFS Northwest Regional Office for Law Enforcement. Soundwatch did however, assist with a NOAA Office of Law Enforcement special investigation involving a Canadian commercial whale watch vessel that was bumped by a southern resident killer whale in July of 2005.

1.4 Provide summaries of outreach activities including dates when on-the-water activities were conducted and hours of operation with monthly invoices submitted for payment.

In addition to the on-the-water distribution, over 20,000 Be Whale Wise brochures and 1000 posters were distributed annually in 2004 and 2005 regionally to federal, state, county and private parks; boating facilities; boating organizations, and at regional festivals. Brochures and posters were also made available at regional conferences and workshops. The Whale Museum displayed Be Whale Wise exhibits and made brochures available to over 30,000 museum visitors and education program participants. In addition, materials were given to over 10,000 Whale Museum members and adopters through The Whale Museum's Orca Adoption Program.

In 2004, Soundwatch staff and volunteers attended 15 marine/boater related community events and made 20 presentations on responsible marine wildlife viewing practices. Soundwatch staff also participated in over 30 regional scientific and marine management meetings and workshops. Soundwatch staff prepared and produced 20 monthly and an annual summary feedback reports to the Whale Watch Operators Association Northwest (WWOANW).

In 2005, Soundwatch staff and volunteers attended 12 marine/boater related community events and made 15 presentations on responsible marine wildlife viewing practices. Soundwatch staff also participated in over 30 regional scientific and marine management meetings and workshops. Soundwatch staff prepared and produced 20 monthly and an annual summary feedback reports to the WWOANW. Soundwatch staff presented a paper entitled *The Evolution of Adaptive Management Practices for Vessel-based Wildlife Viewing in the Boundary Waters of British Columbia and Washington State. From Voluntary Guidelines to Regulations?* at the Puget Sound Georgia Basin Marine Research Conference in March of 2005.

Task 2: Conduct Data Analysis and Report on Present and Historical Compliance with Whale Watch Guidelines.

2.1 Collect data on vessel compliance for the 2004/05 whale watch season to assess effectiveness of the new Be Whale Wise Guidelines.

The Soundwatch crew daily monitors commercial whale watch operators, recreational boaters and other vessels to record compliance with current best practice guidelines. Using a set of incident definitions and protocols agreed upon with US and Canadian management agencies and commercial whale watch operators at annual drivers training meetings, perceived contradictions are recorded as *vessel incidents*. An incident is defined as a driver of a commercial whale watch vessel, private boat operator, kayaker or other vessel operating contrary to the agreed upon voluntary WWOANW or Be Whale Wise Guidelines. In extreme cases these incidents may be violations of U.S. and/or Canadian marine mammal regulations.

Incidents are recorded whenever Soundwatch staff observes a perceived incident. A vessel's company and/or name must be identified, preferably the actual name and registration number of the specific vessel. The date, time, quad location and exact name location are recorded as well as the type of incident(s). Notation is made if video or photos were taken. Any special considerations or needed follow-up is indicated in the comments section.

2.2 Conduct analysis and provide report on vessel activities and vessel compliance under prior and new regional guidelines.

Conducting an analysis of the Soundwatch vessel count and vessel incident data to report on compliance with past and present regional guidelines is not the best analytical fit due to the

program's data collection design and methodology. The Soundwatch program began primarily as a boater education program aimed at reducing potential disturbances to whales through on the water and shore-based outreach education. Data collection on vessel numbers, types and behaviors was designed and intended to provide a means to annually evaluate voluntary guidelines for annual adjustment utilizing an adaptive management approach.

The annually adapted management strategies and guidelines do not readily lend themselves to a systematic comparison of compliance with past and present best practice guidelines because by definition "adaptive" guidelines are constantly changing. However, data collected on vessel numbers, types and behaviors since 1998 has provided the basis for Soundwatch to characterize Southern Resident Killer Whale viewing trends in the Haro Strait region and provide its findings to the whale watch industry, stakeholders and regional managers to negotiate annual guideline adjustments culminating in the creation of the current Be Whale Wise Guidelines. Data collected on vessel numbers, types and behaviors since 1998 has been analyzed and reported here to best characterize past and present whale watching trends and lend a basis for future whale watch management strategies.

2.3 Provide a comparative report on past and present guideline compliance including information on vessels of different sizes.

Soundwatch vessel count and incident data collection design and methodology do not allow for the analysis of vessels according to size. However, Soundwatch has consistently maintained a record of the commercial whale watch industry vessel number, types and sizes that are useful in understanding the composition of the commercial whale watch industry in the region.

Whale Watching Trends

Prior to 1976 whale watching in this region was virtually non-existent. Then, from 1984 through 1998 it exhibited nearly continuous annual growth in the mean number of commercial companies and numbers of vessels accompanying whales (Figure 8). The retail sale of orca watching tickets in this region began in the late 1970s, but did not gross over \$10,000 in estimated ticket sales annually until 1985. By 1991 ticket sales broke \$1 million and by the end of the 1997 season they approached \$5.7 million, with 81 commercial boats from both sides of the border carrying over 250,000 passengers (The Whale Museum 1999 figures). Shore-based whale watching at Lime Kiln Point/Whale Watch State Park steadily increased from the park dedication in 1984 through 1996. Since then, visitors to the park have maintained steady at nearly 200,000 visitors annually (Figure 8).

In 2004 there were 73 active commercial whale watch vessels originating from 39 active commercial companies in U.S. and Canadian ports surrounding the study area. In 2005 there were nearly the same number (74) of active commercial whale watch vessels originating from 39 commercial companies in U.S. and Canadian ports in the Haro Strait region (Figure 9).

In 2005 the number of U.S. and Canadian companies remained nearly the same with 22 Canadian and 17 U.S. companies respectively. There continues to be more active Canadian vessels, totaling 55 active vessels compared to 19 U.S. active vessels (Figure 9).

Figure 8: Whale Watching Trends in the Boundary Waters of Haro Strait 1976-2005.

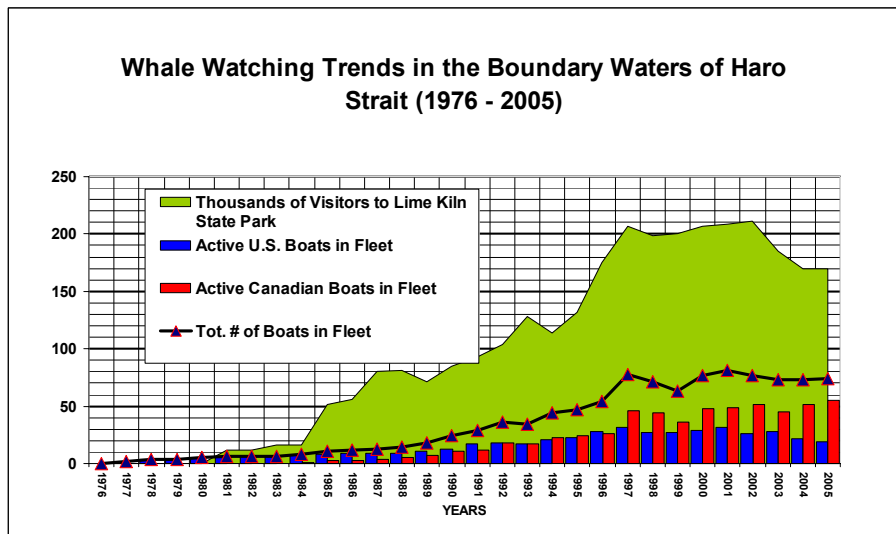


Figure 9: Growth of Commercial Whale Watching in the Boundary Waters of Haro Strait 1976-2005.

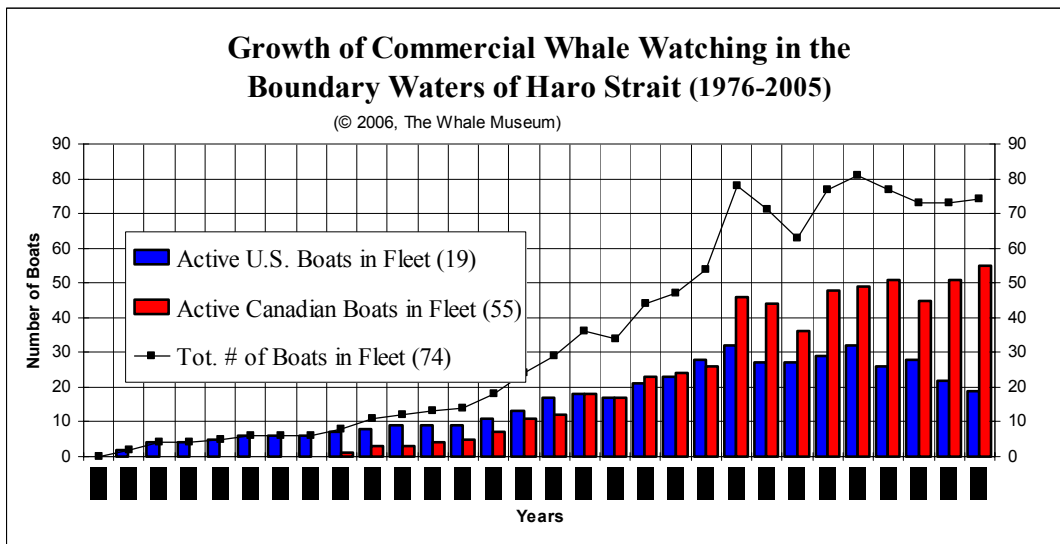


Figure 10: 2004 and 2005 Commercial Whale Watch Platforms in the Boundary Waters of Haro Strait.



The whales have consistently had an average of 20 vessels of a various of types within a half-mile of their location from 1998-2005 as observed by Soundwatch (Figures 12-17). In addition to commercial whale watch vessels, this region also attracts great numbers of private boaters both for fishing and general recreation including several kayaks (Figures 14-18). Many private boaters engage in whale watching activities, making up over 30% of all vessels traveling with the whales (Figures 17, 18, 20, 22). Commercial vessels represent nearly 50% of all vessels traveling with the whales (Figures 17, 18, 19, 21). The majority of companies operating in the transboundary waters were members of the WWOANW in 2004 and 2005(Figures 23, 24).

Figure 11: Average Number of Vessels Accompanying Orcas Per Month 1998-2005.

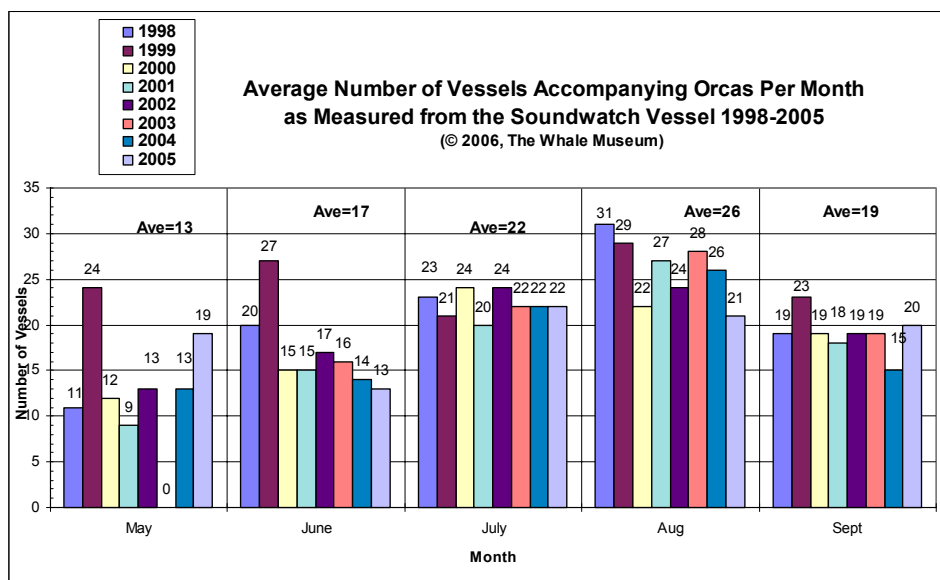


Figure 12: Annual Average Numbers of Vessels with Orcas at Different Times of Day 1998-2005.

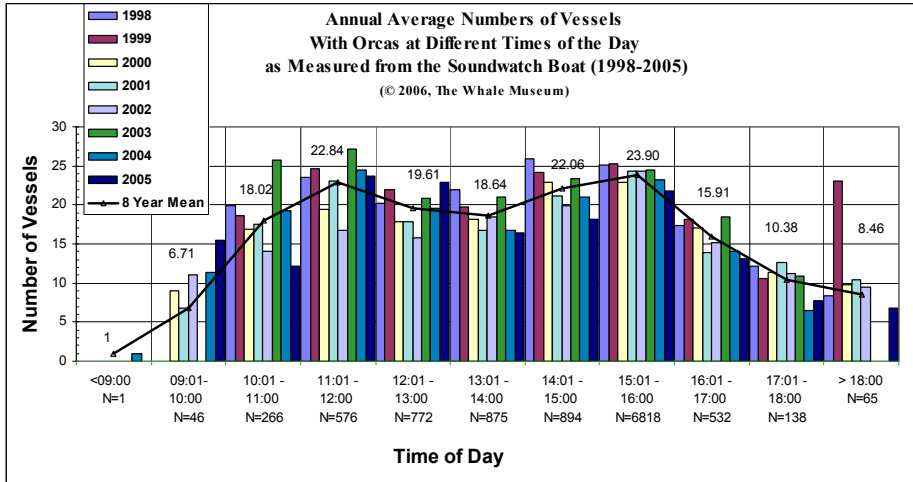


Figure 13: Monthly Number of Vessels with Whales at Different Times of the Day, May-September 2005.

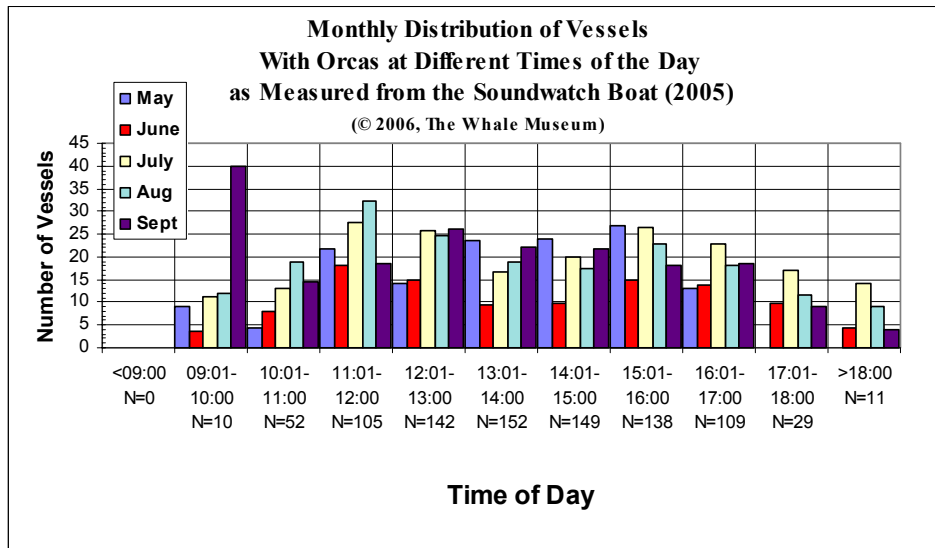


Figure 14: Annual Vessel Type Averages and Maximum Vessel Type Numbers of Vessels Accompanying Orcas in Boundary Waters May-September 1998-2005.

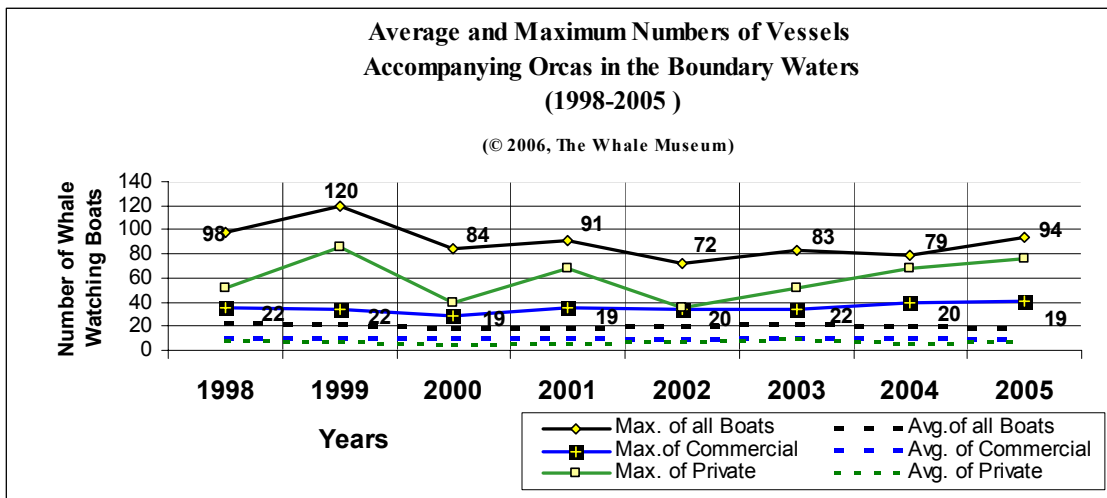


Figure 15: Annual Averages of Vessel Types Accompanying Orcas May-September 1998-2005.

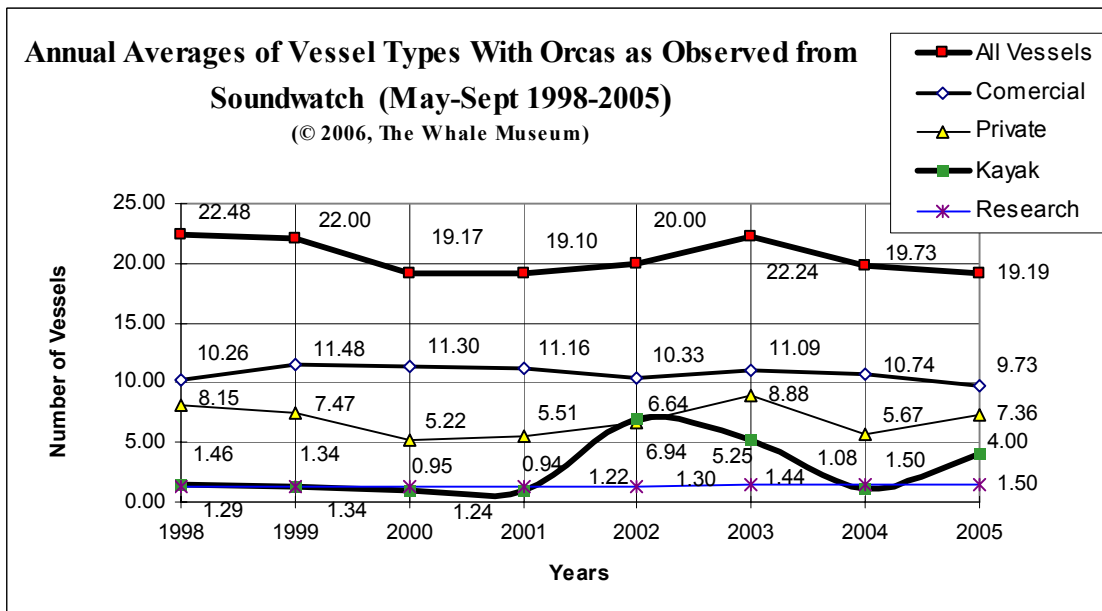


Figure 16: Mean Annual Daily Average of Number of Commercial and Private Boats with Whales in Haro Strait Region May-September 1998-2005 with Standard Deviation.

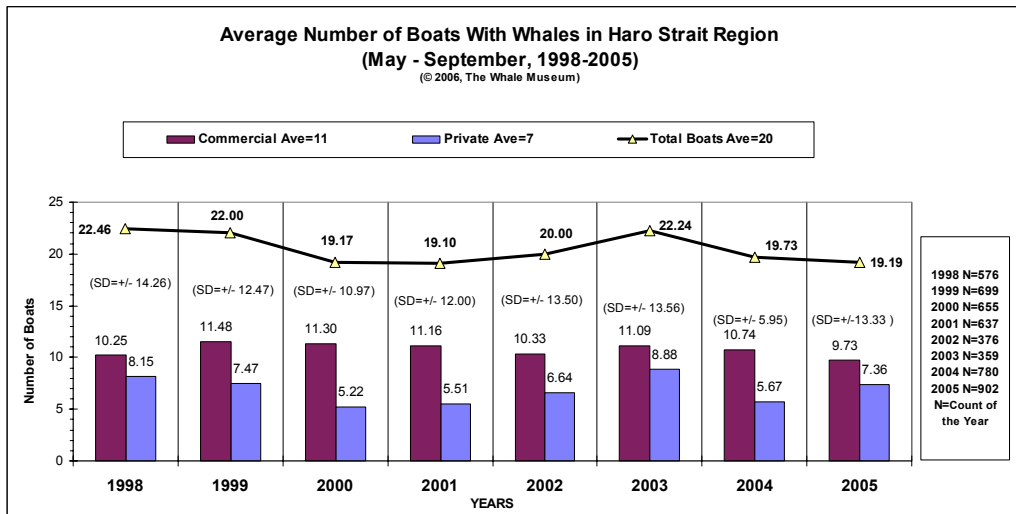


Figure 17: Distribution of Vessels When Whales Present May-September 2004.

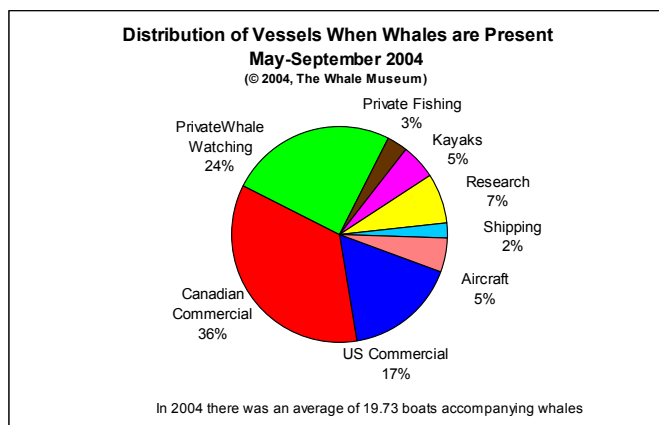


Figure 18: Distribution of Vessels When Whales Present May-September 2005.

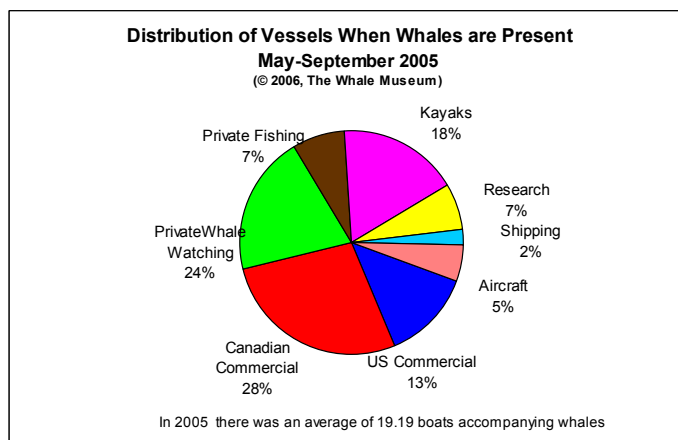


Figure 19: 2004 Distribution of Commercial Whale Watch Boats When Whales are Present.

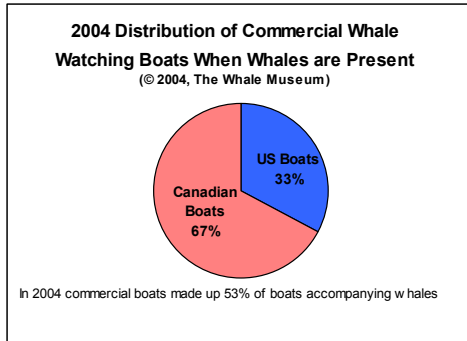


Figure 20: 2004 Distribution of Private Boats When Whales are Present.

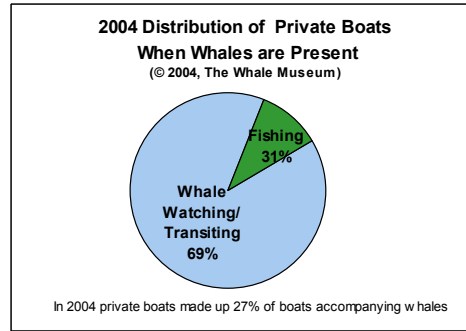


Figure 21: 2005 Distribution of Commercial Whale Watch Boats When Whales are Present.

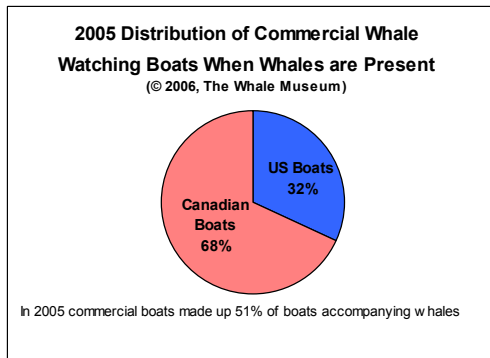


Figure 22: 2005 Distribution of Private Boats When Whales are Present.

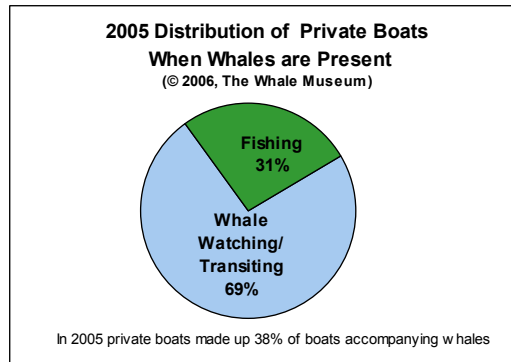


Figure 23: 2004 Percentages of U.S. and Canadian Companies in the Whale Watch Operators Association Northwest

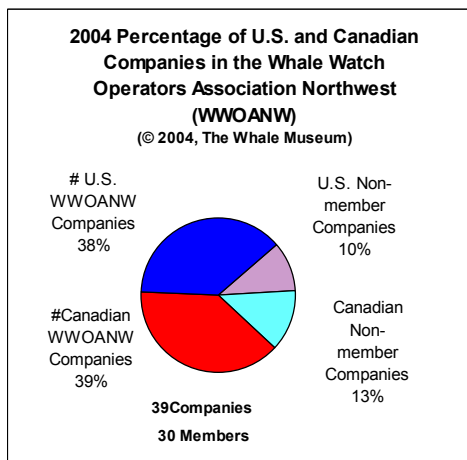
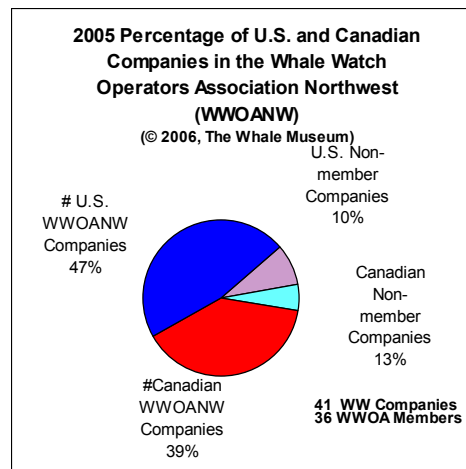


Figure 24: 2005 Percentages of U.S. and Canadian Companies in the Whale Watch Operators Association Northwest



Changes to the Be Whale Wise Guidelines

The content of the Be Whale Wise Guidelines has not changed since 2002. However, layout changes and the addition of logos from NOAA Fisheries Office of Law Enforcement, Washington Department of Fish and Wildlife, The Vancouver Aquarium and the Seattle Aquarium have been added with subsequent printings. Both NOAA Fisheries and Canada Fisheries have been responsible for printing costs annually. It is the intention of all parties to address specific guideline changes in 2006, especially since the listing of killer whales as a Species at Risk under the newly ratified Species at Risk Act (SARA) in Canada and the Southern Resident Killer Whales being considered for listing under the Endangered Species Act (ESA) in the United States.

Vessel Incident Data Trends

Vessel incident data can be utilized to characterize types of vessels and behaviors most commonly seen around the whales and can be used to generate future strategies for whale watch management in the region. Vessel incident trends are best interpreted when viewed as annual percentages (Table 1, Figures 25-27).

Consistently the top vessel incident percentage categories have included 1- vessels parking in the path of whales (Parked in Path), 2-vessels motoring inshore of whales (Inshore of Whales), and 3- vessels motoring within 100 yards of whales (Under power within 100-yards of whales) (Table 1, Figures 26 and 27).

However, in 2004 Inshore of Whales replaced Parked in the Path as the top incident percentage. Some other slight changes have taken place as the number of aircraft circling or being below 1,000-feet above whales has increased, which is shown by an increase in the percentages in the *Other* category. Also in the *Other* category in 2005, were a large number of commercial vessel operators engaging in a new *park and drift behavior* while watching a solitary gray whale in the area for over two months during the 2005 viewing season. A decline was seen in the number of incidents of vessels within the ¼ mile voluntary No-go Zone on the west side on San Juan Island (within 400 yards SJI No-Boat Zone). This may represent that the zones have been in place long enough for the general public to have better knowledge of them and that the commercial operators are following this guideline more often thus modeling better behavior. In 2004 and 2005 percentages of vessels motoring under power within 100 yards of whales (Under power within 100-yards of whales) and motoring faster than 5-7 knots within ¼ mile of the whales (Fast w/in ¼ mile) were nearly equal making up the 4th and 5th vessel incident percentage categories (Table 1, Figures 26 and 27).

Table 1: Soundwatch 1998-2005 All Vessel Incident Percentage Table

Soundwatch Observed Commercial, Private, Kayak, Aircraft and Research Behavior Contrary to Guidelines 1998-2005									
Behavior Code	Behavior Category	Incidents							
		1998	1999	2000	2001	2002	2003	2004	2005
1	Leapfrogging	37%	31%	23%	1%	NA	NA	NA	NA
2	Under power within 100 yards of whales	6%	4%	5%	4%	5%	12%	9%	10%
3	Within 440 yards of SJI No-Boat Zone	39%	26%	17%	17%	7%	13%	4%	8%
4	Within 880 yards of Lime Kiln	2%	2%	2%	1%	2%	5%	1%	2%
5	Crossing path of whales	4%	3%	5%	2%	4%	7%	6%	4%
6	Chasing/pursuing whales	3%	1%	3%	2%	<1%	4%	3%	1%
7	Inshore of whales	5%	29%	24%	25%	19%	16%	22%	18%
8	Airplane within 1000 feet	4%	2%	4%	7%	14%	6%	6%	4%
9	Within 200 yards of National Wildlife Refuge	0%	1%	3%	1%	2%	2%	1%	0%
•10	Other		1%	3%	3%	14%	5%	15%	11%
•11	Within 220 yards of shore; whales present			4%	4%	2%	<1%	4%	1%
•12	Repositioning within 100 yards			7%	7%	NA	NA	NA	NA
•13	Parked in the path of whales				26%	24%	17%	19%	27%
•16	Fast within 1/4 mile					3%	4%	9%	10%
•17	1st Approach head on, behind, or on shore					4%	2%	1%	<1%
•18	Kayaks spread out					<1%	3%	0%	<1%
•19	Kayaks with whales outside 1/4 SJI Zone					<1%	1%	0%	<1%
•20	Kayaks paddling w/in 100 yds						3%	0%	<1%
•Category Not Used	*1998-2001 Sw Ave 7days/week May-Sept								
During All Years	**2002 SW Ave 3 days/week May-Sept								
	***2003/04/05 SW Ave 5days/week May-Sept								
	Total %	100%	100%	100%	100%	100%	100%	100%	96%
	Total Observed Incidents	*398	*791	*653	*533	**259	***373	***761	***957
	Estimated Observation Hours	426hr	510hr	462hr	486hr	378hr	312hr	486hr	564hr

Figure 25: Clustered Incident Categories for all Vessel Types 1998-2005

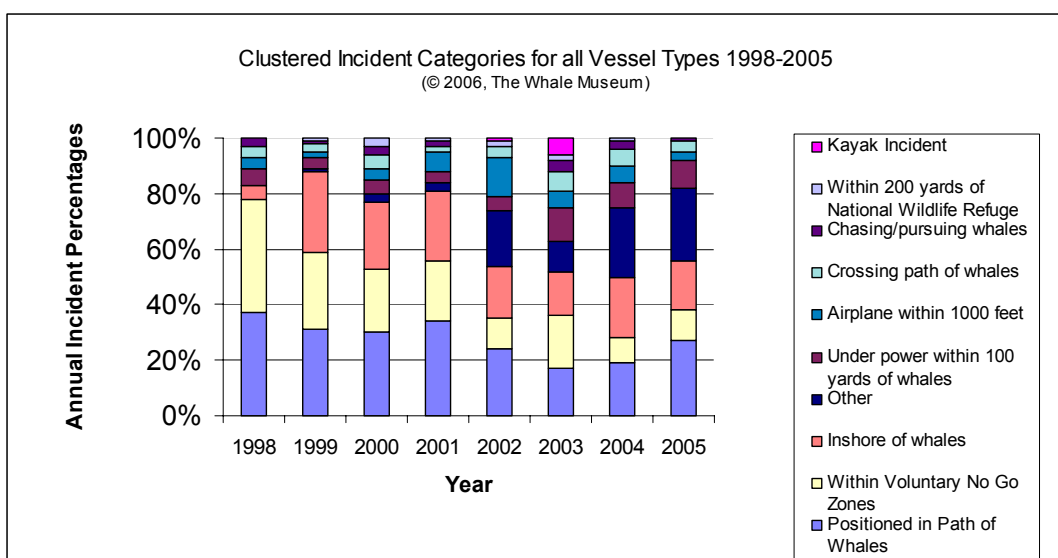


Figure 26: 2004 Soundwatch Observed Vessel Incident Percentages.

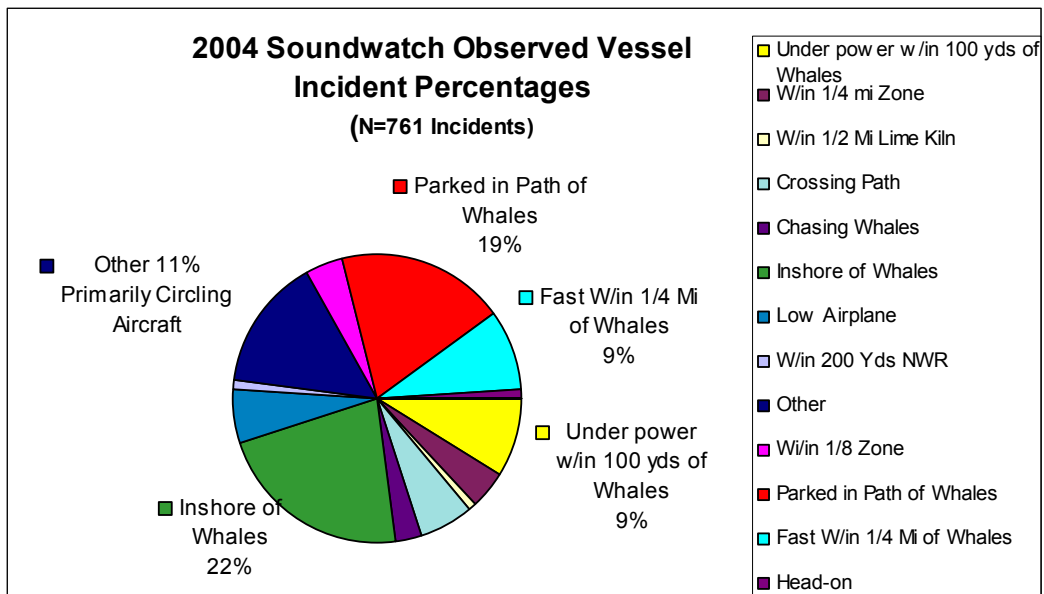


Figure 27: 2005 Soundwatch Observed Vessel Incident Percentages.

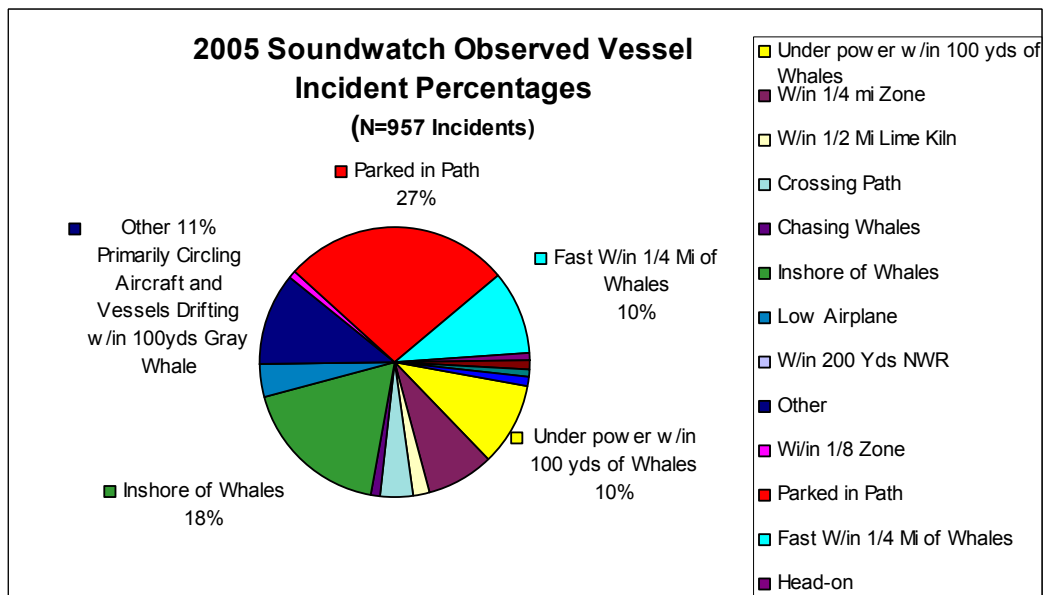


Table 2: 2004 Annual Summary of Vessel Incidents By Vessel Type

**2004 SOUNDWATCH Feedback
Whale Watching Incident Summary**

From: 5/15/04 To: 9/26/04

<i>Behavior</i>	<i>Total</i>	<i>CWW US</i>	<i>CWW Can</i>	<i>Private</i>	<i>Kayak</i>	<i>Research</i>	<i>Aircraft</i>	<i>Other</i>
Parked in path of whales	145	31	87	21		4		2
Inshore of whales	164	32	93	33		5		1
Within 440 yards of SJI No-Boat Zone	30	4	20	6				
Under power within 100 yds/m of whales	69	4	4	54		4		3
Crossing path of whales	43	7	2	32		1		1
Airplane within 1000 feet	47						46	1
Within 880 yards of Lime Kiln	9	1	3	5				
Other	111	15	24	5	2		63	2
Chasing/pursuing whales	20	1		14	3			2
Fast within 1/4 mile	69	9	8	47		1		4
Kayak paddling within 100 yds of whales	3				3			
Kayaks spread out	2				2			
1st approach head-on, behind, or inshore	9	5	2	2				
Within 200 yards of National Wildlife Refuge	8	5	1	2				
Within 220 yards of shore; whales present	31	4	22	4		1		

TOTAL 760

Friday October 15, 2004

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Table 3: 2005 Annual Summary of Vessel Incidents By Vessel Type

SOUNDWATCH Feedback

From *5/14/05* To *9/25/05*

<i>Behavior</i>	<i>Total</i>	<i>CWW US</i>	<i>CWW Can</i>	<i>Private</i>	<i>Kayak</i>	<i>Research</i>	<i>Aircraft</i>	<i>Other</i>
Parked in path of whales	255	57	140	44	3	8		3
Inshore of whales	169	27	60	76		1		5
Other	108	18	41	21	2		21	5
Under power within 100 yds/m of whales	103	7	3	83		5		5
Fast within 1/4 mile	99	7	2	80		4		6
Within 440 yards of SJI No-Boat Zone	81	8	14	55		1		3
Crossing path of whales	39	4	8	21		3		3
Airplane within 1000 feet	35						35	
Within 880 yards of Lime Kiln	18	1	1	15		1		
Chasing/pursuing whales	14			13	1			
1st approach head-on, behind, or inshore	14	1	2	10	1			
Within 220 yards of shore; whales present	11	6	3	2				
Kayaks paddling w/in 100 yds outside 1/4 mile SJI zone	8				8			
Repositioning within 100 yards/meters	2		1	1				
Within 200 yards of National Wildlife Refuge	1	1						
<i>TOTAL</i>	<i>957</i>							

Friday, September 30, 2005

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Figure 28: 2004 Soundwatch Observed Vessel Incident Percentages by Vessel Type.

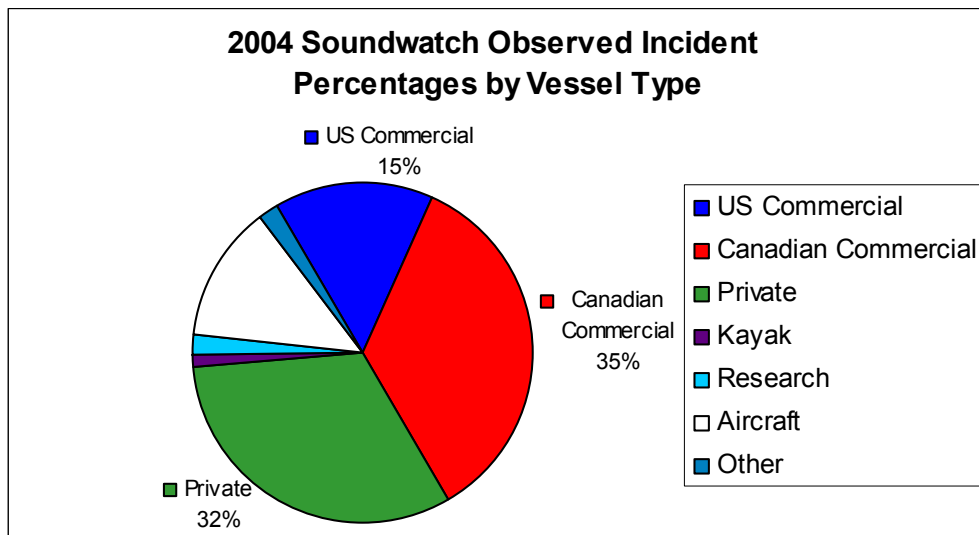
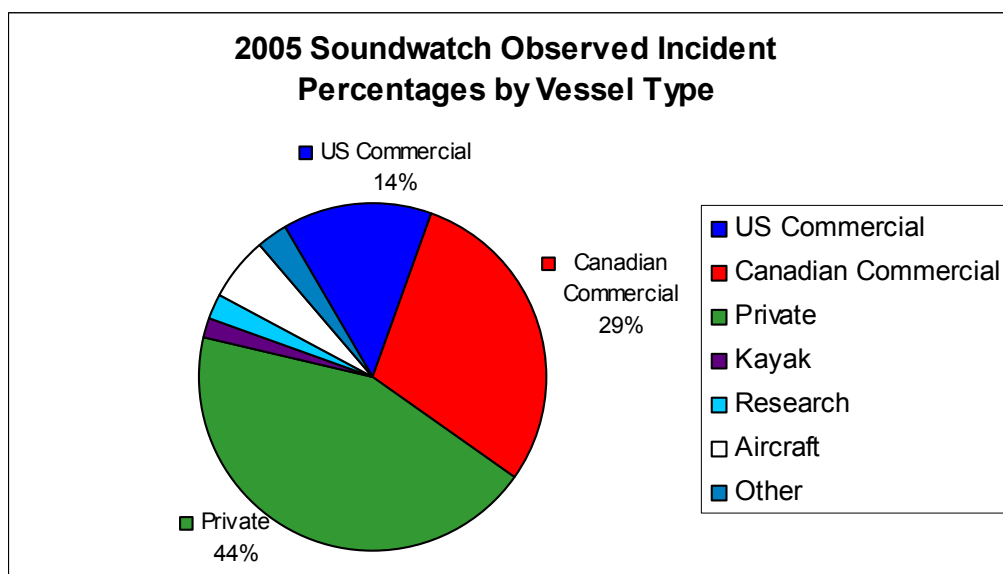


Figure 29: 2005 Soundwatch Observed Vessel Incident Percentages by Vessel Type.



Trends in vessel incidents by vessel type were examined for the following vessel categories: US or Canadian Commercial vessels, Private vessels, kayak, Research vessels, Aircraft or Other. In 2004, Vessels Inshore of Whales was the top percentage of vessel incidents and occurred primarily with Canadian commercial operators, followed by US commercial operators and private operators at nearly similar levels (Tables 2 and 3, Figures 28 and 29). Vessels Parked in the Path of Whales was the second incident category, with similar trends of vessel types associated with the incidents. The Other category of incidents was largely aircraft observed flying in low circles over whales. Under Power within 100 yards of Whales, Motoring

Fast within ¼ Mile of Whales and Crossing the Whales Path incident categories were almost exclusively limited to private vessel operators (Tables 2 and 3, Figures 28 and 29).

Similarly, in 2005, vessels Parked in the Path of Whales and vessels Inshore of Whales were incidents more likely to be Canadian commercial vessels or private vessels. The Other category consisting largely of commercial vessel operators engaging in a *park and drift behavior* while watching a solitary gray whale and tended to occur more often with Canadian vessel operators, followed by US commercial operators and then private vessel operators most likely following the example set by the commercial operators. As in previous years, Under Power within 100 yards of Whales, Motoring Fast within ¼ Mile of Whales and Crossing the Whales Path incident categories were almost exclusively limited to private vessel operators (Tables 2 and 3, Figures 28 and 29). Private vessel operator behavior made up nearly 44% of all observed incidents in 2005 (Figure 29). This is a slight increase from previous years where private vessel operator incidents have been around 32-38% and largely reflects a single event of a 4-day Salmon Fishing Derby in the San Juan Islands. This year the derby took place on days and areas where the all three southern resident orca pods were present, causing significant conflicts with private recreational boaters not respecting the Be Whale Wise Guidelines.

The trend of Canadian commercial vessels having consistently the majority of commercial vessel incidents annually (Tables 2 and 3, Figures 28 and 29) reflects both that the majority of commercial vessels on the water are Canadian whale watch vessels and that the Canadian whale watch techniques used by the Canadian commercial vessel operators differs somewhat from the majority of their U.S. counter parts. Private vessel operators continue to be more likely than commercial operators to engage in vessel behaviors that are most likely to be disturbing to the whales.

Vessel incident data can also be used as a tool to illustrate areas of high of vessel traffic and hence high numbers of vessel incidents and can reflect localized geographic conditions and/or trends in whale behaviors in those locations (Figures 30 and 31, Appendix A). This information may useful in designing specialized voluntary or regulatory no go zones, or increase distance guidelines.

Figure 30: 2004-2005 Soundwatch Most Frequent Location by Quadrant.

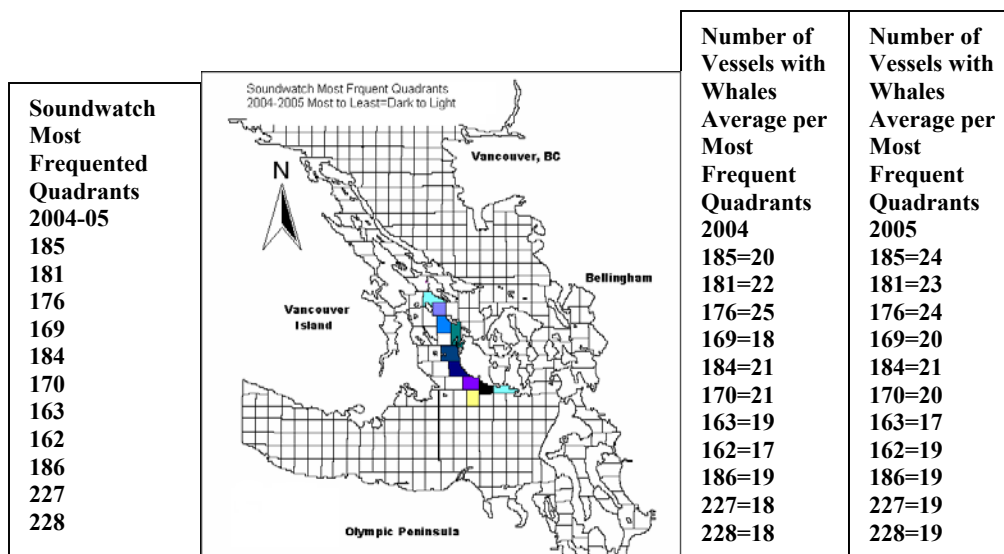
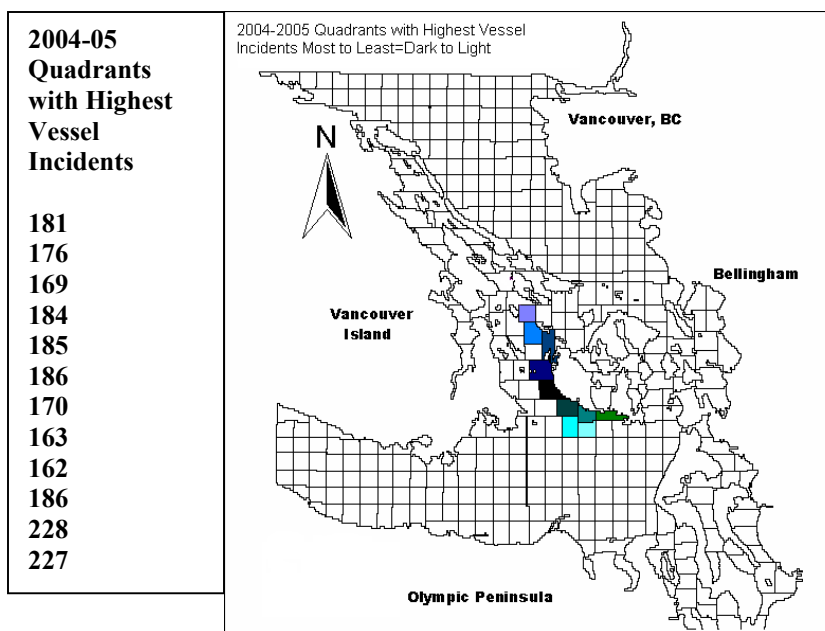


Figure 31: 2004/05 Quadrants with Highest Vessel Incidents.



Conclusions

Soundwatch data collected on vessel numbers, types and behaviors around Southern Resident Killer Whales since 1998 has provided the basis for Soundwatch to characterize Southern Resident Killer Whale vessel-based viewing trends in the Haro Strait region. Soundwatch has provided these findings to the whale watch industry, stakeholders and regional managers to inform future whale watch management strategies. It also is a valuable tool for the training of commercial operators and has been invaluable for implementing new private and industry whale watch guidelines. The Soundwatch Boater Education Program has been internationally recognized as successful in reducing vessel disturbance to whales. NOAA Fisheries and the Washington Department of Fish and Wildlife acknowledge Soundwatch as an essential component of both U.S. and Canadian killer whale conservation plans and recommend the continuation and expansion of the Soundwatch Boater Education Program.

Individuals and/or Organizations that Collaborated with the Grantee and Performed the Work:

The Whale Museum staff administered grant funds, including accounting and disbursement, from award AB133F-03-SE-0835. The Soundwatch director, seasonal staff, academic interns and volunteers are responsible for the outreach and monitoring activities and data entry. Soundwatch staff undertook the bulk of data compilation, assessment and report compilation. Individuals who made major contributions to the outreach activities and data collection include past and present Soundwatch drivers: Kari Koski, Rich Osborne, Jeff Hogan, Jesse Berube; past and present interns and program assistants: Johanna Smith, Jodi Smith, Gaia Shelton-Wilson, John Boyd, Debbie Giles, Lindsay Walker, Sunny Weir, Jim Rappold, Monika Wieland, Ron Zee, Amanda Zee, Heather Spaulding, Mary Kober; and the over 300 individuals contributing approximately 48,338 volunteer hours to Soundwatch activities since 1998! Special thanks also go to the following organizations that help support and collaborate with our efforts: the Whale Watch Operators Association Northwest, the Marine Mammal Monitoring Program (M3), Straitwatch, The Robson Bight Warden Program, U.S. Fish and Wildlife Service, Washington Department of Fish and Wildlife, NOAA Fisheries Northwest Region, Northwest Fisheries Science Center, Fisheries and Oceans Canada, San Juan County's Marine Resource Committee, SeaCoast Whale Watch Spotting Network, the Center for Whale Research, The Whale Research Lab, Orca Network, the Port of Friday Harbor, Snug Harbor, Roche Harbor, Island Petroleum Services, One Stop Storage, Installation Plus, The National Fish and Wildlife Foundation, Target and the numerous generous contributions from regional business and individuals over the years.

* * *

Appendix A: The Whale Museum Marine Mammal Sighting Quadrants.

